Kindly amend the application as follows.

Amendments to the Claims

This listing of claims will replace all prior versions, and listings, of claims in the application:

Claim 1 (original): An antibody or fragment thereof that binds with high binding affinity to a YYX epitope of a mammalian PrP^{Sc}.

Claim 2 (previously presented): The antibody of claim 1, wherein said antibody does not specifically bind PrP^{C}.

Claim 3 (original): The antibody of claim 1, wherein said antibody binds to a YYR epitope of a mammalian PrP^{Sc}.

Claim 4 (original): The antibody of claim 1, wherein said antibody is a polyclonal antibody generated against a YYR epitope of PrP^{Sc}.

Claim 5 (original): The antibody of claim 4, wherein said YYX epitope is part of CYYR (SEQ ID NO: 32).

Claim 6 (original): The antibody of claim 1, wherein said antibody is a monoclonal antibody generated against a YYR epitope of PrP^{Sc}.

Claim 7 (original): The antibody of claim 6, wherein said YYR epitope is part of CYYRRYYRYY (SEQ ID NO: 33).

Claim 8 (original): The antibody of claim 1, wherein said antibody is an IgG, IgM, IgE, IgD, or IgA.

Claim 9 (original): The antibody of claim 1, wherein said antibody fragment is a Fab or Fv fragment.

Claim 10 (original): A hybridoma cell line that produces a monoclonal antibody that binds with high binding affinity to a YYX epitope of a mammalian PrP^{Sc}.

Claim 11 (previously presented): The hybridoma of claim 10, wherein said antibody does not specifically bind PrP^{C}.

Claim 12 (original): The hybridoma cell line of claim 10, wherein said antibody binds to a YYR epitope of a mammalian PrP^{Sc}.

Claim 13 (original): The hybridoma cell line of claim 12, wherein said YYR epitope is part of CYYRRYYRYY (SEQ ID NO: 33).

Claim 14 (original): A composition comprising the antibody of claim 1.

Claim 15 (original): The composition of claim 14, wherein said composition further comprises a carrier.

Claim 16 (original): The composition of claim 14, wherein said composition is a therapeutic composition.

Claim 17 (original): An immunological test kit comprising the antibody of claim 1 and a means for detecting said antibody.

Claim 18 (withdrawn): A method for detecting PrP^{Sc} in a biological sample, said method comprising the steps of:

(a) contacting said biological sample with the antibody of claim 1 under conditions that allow for complex formation between said antibody and PrP^{Sc}; and

(b) detecting said complexes as an indication that PrP^{Sc} is present in said biological sample.

Claim 19 (withdrawn): The method of claim 18, wherein said antibody does not substantially bind PrP^{C}.

Claim 20 (withdrawn): The method of claim 18, wherein said antibody is a polyclonal antibody or fragment thereof.

Claim 21 (withdrawn): The method of claim 18, wherein said antibody is a monoclonal antibody or fragment thereof.

Claim 22 (withdrawn): The method of claim 18, wherein said biological sample comprises a tissue or cell, a tissue or cell extract, a bodily fluid, or a biopsy.

Claim 23 (withdrawn): The method of claim 18, wherein said PrP^{Sc} is from a human, a livestock species, or a pet species.

Claim 24 (withdrawn): The method of claim 18, wherein said complex is detected using an ELISA, RIA, western blotting, immunoprecipitation, or flow cytometry.

Claim 25 (withdrawn): A method for treating or preventing a PrP^{Sc} disease in a mammal, comprising administering to said mammal an effective amount of the antibody of claim 1 in a pharmaceutically-acceptable carrier.

Claim 26 (withdrawn): A peptide comprising a YYX, YYR, YYD, or YYQ amino acid sequence, said peptide having antigenicity as a PrP^{Sc}.

Claim 27 (withdrawn): The peptide of claim 26, wherein said peptide is composed of 18 or fewer amino acids.

Claim 28 (withdrawn): The peptide of claim 26, wherein said peptide is composed of 12 or fewer amino acids.

Claim 29 (withdrawn): The peptide of claim 26, wherein said peptide is composed of 8 or fewer amino acids.

Claim 30 (withdrawn): The peptide of claim 26, wherein said peptide is composed of 5 or fewer amino acids.

Claim 31 (withdrawn): The peptide of claim 26, wherein said peptide is fused to an immunogenic carrier.

Claim 32 (withdrawn): The peptide of claim 26, wherein said immunogenic carrier is serum albumin, ovalbumin, keyhole limpet hemocyanin, 8map, or lysozyme.

Claim 33 (withdrawn): The peptide of claim 26, wherein said peptide is the tripeptide having the amino acid sequence YYR.

Claim 34 (withdrawn): A synthetic peptide having the formula:

$$A\text{-}Tyr\text{-}Tyr\text{-}B\text{-}(Tyr\text{-}Tyr\text{-}B)_n$$

wherein A is either any amino acid or is absent;

wherein B is either any amino acid or is absent; and

wherein n is from 0 to 10, inclusive.

Claim 35 (withdrawn): The peptide of claim 34, wherein at least one of A and B is not Tyr.

Claim 36 (withdrawn): The peptide of claim 34, wherein A or B are chosen from Ala, Cys, Asp, Glu, Phe, Gly, His, Ile, Lys, Leu, Met, Asn, Pro, Gln, Arg, Ser, Thr, Val, or Trp.

Claim 37 (withdrawn): The peptide of claim 34, wherein said peptide is A-Tyr-Tyr-Arg (SEQ ID NO: 12) or a pharmaceutically acceptable salt thereof.

Claim 38 (withdrawn): The peptide of claim 34, wherein said peptide is A-Tyr-Tyr-Gln (SEQ ID NO: 13) or a pharmaceutically acceptable salt thereof.

Claim 39 (withdrawn): The peptide of claim 34, wherein said peptide is A-Tyr-Tyr-Asp (SEQ ID NO: 14) or a pharmaceutically acceptable salt thereof.

Claim 40 (withdrawn): The peptide of claim 34, wherein said peptide is linked to an immunological carrier.

Claim 41 (withdrawn): A synthetic peptide having the formula:

$$A\text{-}Tyr\text{-}Tyr\text{-}B\text{-}C\text{-}Tyr\text{-}Tyr\text{-}D\text{-}Tyr\text{-}Tyr\text{-}(Tyr\text{-}Tyr\text{-}B)_n$$

wherein A is either any amino acid or is absent;

wherein B is either any amino acid or is absent;

wherein C is either any amino acid or is absent;

wherein D is either any amino acid or is absent; and

wherein n is 0 to 10, inclusive.

Claim 42 (withdrawn): The peptide of claim 41, wherein at least one of A, B, C, and D is not Tyr.

Claim 43 (withdrawn): The peptide of claim 41, wherein A, B, C, or D are chosen from Ala, Cys, Asp, Glu, Phe, Gly, His, Ile, Lys, Leu, Met, Asn, Pro, Gln, Arg, Ser, Thr, Val, or Trp.

Claim 44 (withdrawn): The peptide of claim 41, wherein A is Ala, Cys, Asp, Glu, Phe, Gly, His, Ile, Lys, Leu, Met, Asn, Pro, Gln, Arg, Ser, Thr, Val, or Trp, and B, C, and D are chosen from Arg, Gln, Asp, Glu, Phe, or Trp.

Claim 45 (withdrawn): The peptide of claim 41, wherein said peptide is A-Tyr-Tyr-Arg-Arg-Tyr-Tyr-Arg-Tyr-Tyr (SEQ ID NO: 25) or a pharmaceutically acceptable salt thereof.

Claim 46 (withdrawn): The peptide of claim 41, wherein said peptide is linked to an immunological carrier.

Claim 47 (withdrawn): A method for generating an antibody that binds with high binding affinity to a mammalian PrP^{Sc}, said method comprising the steps of:

(a) providing a prion protein peptide comprising an accessible epitope having two or more amino acid side chains;

(b) immunizing a mammal with said prion protein peptide of step (a); and

(c) purifying said antibody from a tissue of said mammal or from a hybridoma made using said tissue.

Claim 48 (withdrawn): The method of claim 47, wherein said antibody does not substantially bind PrP^{C}.

Claim 49 (withdrawn): The method of claim 47, wherein said antibody is a polyclonal antibody or fragment thereof.

Claim 50 (withdrawn): The method of claim 47, wherein said antibody is a monoclonal antibody or fragment thereof.

Claim 51 (withdrawn): The method of claim 47, wherein said prion protein peptide comprises a YYX amino acid sequence.

Claim 52 (withdrawn): The method of claim 51, wherein said prion protein peptide comprises a YYR or YYQ or YYD amino acid sequence.

Claim 53 (withdrawn): The method of claim 47, wherein said prion protein peptide is composed of 18 or fewer amino acids.

Claim 54 (withdrawn): The method of claim 47, wherein said prion protein peptide is composed of 12 or fewer amino acids.

Claim 55 (withdrawn): The method of claim 47, wherein said peptide is composed of 8 or fewer amino acids.

Claim 56 (withdrawn): The method of claim 47, wherein said peptide is composed of 5 or fewer amino acids.

Claim 57 (withdrawn): The method of claim 47, wherein said prion protein peptide comprises the peptide of claim 34 or claim 41.

Claim 58 (withdrawn): A vaccine against a PrP^{Sc} disease comprising a peptide of any one of claims 26, 34, or 41 and a pharmaceutically-acceptable carrier.

Claim 59 (withdrawn): A method of immunizing a mammal against a PrP^{Sc} disease, comprising administering an effective amount of the vaccine of claim 58.

Claim 60 (withdrawn): A composition comprising the peptide of any of claims 26, 34, or 41.

Claim 61 (withdrawn): The composition of claim 60, wherein said composition is a therapeutic composition.

Claim 62 (withdrawn): A method for decontaminating PrP^{Sc} from a biological sample, said method comprising the steps of:

(a) treating the biological sample with an antibody of claim 1 for a period of time sufficient to permit the formation of an anti-PrP^{Sc} antibody:PrP^{Sc} complex; and

(b) recovering said anti-PrP^{Sc} antibody:PrP^{Sc} complex from said biological sample.

Claim 63 (withdrawn): The method of claim 62, wherein said biological sample is a tissue, bodily fluid, or organ.

Claim 64 (withdrawn): The method of claim 62, wherein said biological sample is perfused with said antibody

Claim 65 (withdrawn): A method of inhibiting PrP^{SC} in a biological sample, said method comprising:

treating the biological sample with an antibody of claim 1 for a period of time sufficient to permit the formation of an anti-PrP^{Sc} antibody:PrP^{Sc} complex.

Claim 66 (withdrawn): The method of claim 65, wherein said biological sample is a bodily fluid, a tissue or organ.

Claim 67 (withdrawn): The method of claim 65, wherein said biological sample is perfused with said antibody.

Claim 68 (withdrawn): A method for identifying a candidate compound for the treatment of a prion disease, said method comprising:

(a) measuring the binding of an anti-YYX antibody to PrP^{Sc} in the presence of a test compound; and

(b) measuring the binding of said anti-YYX antibody to PrP^{Sc} in the absence of said test compound;

wherein a level of binding of said anti-YYX antibody to PrP^{Sc} in the presence of said test compound that is less than the level of binding of said anti-YYX antibody to PrP^{Sc} in the absence of said test compound is an indication that said test compound is a potential therapeutic compound for the treatment of a prion disease.

Claim 69 (withdrawn): The method of claim 68, wherein the anti-YYX antibody is an anti-YYR antibody, anti-YYD antibody, or an anti-YYQ antibody.

Claim 70 (withdrawn): The method of claim 68, wherein said prion disease affects a human, a livestock species, or a pet species.

Claim 71 (withdrawn): The method of claim 68, wherein said prion disease affects a human, bovine, sheep, or goat.

Claim 72 (withdrawn): The method of claim 68, wherein said test compound is a small molecule.

Claim 73 (withdrawn): A compound identified according to the method of claim 68.

Claim 74 (withdrawn): A method for identifying a compound for diagnosing a prion disease, said method comprising:

(a) measuring the binding of an anti-YYX antibody to PrP^{Sc} in the presence of a test compound; and

(b) measuring the binding of said anti-YYX antibody to PrP^{Sc} in the absence of said test compound;

wherein a level of binding of said anti-YYX antibody to PrP^{Sc} in the presence of said test compound that is less than the level of binding of said anti-YYX antibody to PrP^{Sc} in the absence of said test compound is an indication that said test compound is a potential compound for diagnosing a prion disease.

Claim 75 (withdrawn): The method of claim 74, wherein the anti-YYX antibody is an anti-YYR antibody, anti-YYD antibody, or an anti-YYQ antibody.

Claim 76 (withdrawn): The method of claim 74, wherein said prion disease affects a human, a livestock species, or a pet species.

Claim 77 (withdrawn): The method of claim 74, wherein said prion disease affects a human, bovine, sheep, or goat.

Claim 78 (withdrawn): The method of claim 74, wherein said test compound is a small molecule.

Claim 79 (withdrawn): A compound identified according to the method of claim 74.

Claim 80 (original): An antibody produced according to the method of claim 47.

Claim 81 (previously presented): The antibody of claim 1, wherein said antibody selectively binds PrP^{Sc} as compared to PrP^{C}.

Claim 82 (previously presented): The hybridoma of claim 10, wherein said antibody selectively binds PrP^{Sc} as compared to PrP^{C}.

The Office Action

Claims 1-82 are pending in this application, and of those claims 18-79 were withdrawn from consideration as being drawn to a non-elected invention. Claims 1-17 and 80-82 are currently under examination. Claims 2 and 11 are rejected under 35 U.S.C. § 112, second paragraph. Claims 1-17 and 80-82 are rejected under 35 U.S.C. § 102. Each of these rejections is addressed as follows.

Rejections under 35 U.S.C. § 102

Claims 1-8, 10-17, and 80-82 stand rejected under 35 U.S.C. § 102(b) as anticipated by Korth et al. (Nature). This rejection should be withdrawn.

To support a rejection under § 102, a single prior art reference must identically describe all of the elements and limitations of a rejected claim. Korth (Nature) does not meet this test.

Claim 1 is directed to "an antibody or fragment thereof that binds...to a YYX epitope...." As an initial matter, Applicants point out, for clarification, that the claim requires that the antibody bind *to a YYX epitope* and not *a peptide comprising a YYX epitope*. As is discussed below, Korth fails to disclose such an antibody.

15B3

Turning first to the 15B3 antibody, Korth's own teaching fails to disclose an antibody that binds to a YYX epitope of a mammalian PrP^{Sc}. As evidence of this assertion, applicants direct the Office's attention to Figure 2 of Korth (Nature) (copy enclosed). In Figure 2, the 15B3 and 6H4 epitopes were defined by reactivity to a

'gridded array' of bovine PrP 13-mer peptides. For the Office's convenience, applicants also enclose a copy of the previously submitted Appendix A, which provides the amino acid sequences of the 104 13-residue peptides sequentially shifted in steps of two amino acids and covering the entire mature bovine PrP described by Korth (Nature)[1].

The data shown in Figure 2 can be grouped as follows:

A: Peptides recognized by 15B3 that have YYX (e.g., peptides 64, 65, 73-75).

B: Peptides recognized by 15B3 that do not have YYX (e.g., peptides 62, 101).

C: Peptides not recognized by 15B3 that have YYX (e.g., 66-68, 70-72, and 102-104).

15B3 recognizes several peptides that do not contain a YYX epitope and, conversely, 15B3 does not recognize peptides that do contain a YYX epitope. Given Korth's own data, how can YYX be the epitope for 15B3, when 15B3 recognizes peptides that do not have a YYX epitope and does not recognize peptides that do have a YYX epitope?

Furthermore, from the data in Figure 2, Korth identifies three distinct peptide segments which are termed "partial epitopes" for 15B3. Three peptides are identified: GSDYEDR, YYRPVDQYS, and CITQYQRESQAYY (see Figure 2B). Of these, only YYRPVDQYS includes a YYR sequence at its amino terminus. A careful analysis of the peptides that include this YYR clearly demonstrates that the antibody recognizes some, but not all, of the peptides that have this particular YYR sequence. The data from

[1]In Fig. 2, Korth (Nature) describes "a gridded array of synthetic peptides corresponding to bovine PrP....Each spot corresponds to a 13-amino acid peptide, which is shifted by two amino acids along the bovine PrP sequence relative to the previous peptide....A total of 104 peptides were used to cover the whole bovine PrP sequence including the six octapeptide repeat sequence [citation omitted]."

this set of peptides is reproduced in Table 1 below.

Table 1.

Peptide	Bovine AA	Bovine Seq.	Nature	EPO	
69	161-173	YRENMHRYPNQVY			
70	163-175	ENMHRYPNQVYYR			
71	165-177	MHRYPNQVYYRPV			
72	167-179	RYPNQVYYRPVDQ			
73	169-181	PNQVYYRPVDQYS	+	+	
74	171-183	QVYYRPVDQYSNQ	+	+	
75	173-185	YYRPVDQYSNQNN	+	+	
76	175-187	RPVDQYSNQNNFV		+	
77	177-189	VDQYSNQNNFVHD		+	
78	179-191	QYSNQNNFVHDCV			+
79	181-193	SNQNNFVHDCVNI		+	

Peptides 70-75 include the same YYR sequence. 15B3 recognizes peptides 73-75 (Nature) or 73-79 (EP 0 861 900, "EPO"). 15B3 does not recognize peptides 70-72, yet these peptides include the same YYR sequence. Accordingly, the fact remains that 15B3 does not recognize peptides 70-72 which include a YYR. Clearly, 15B3 is not recognizing the YYR sequence in peptides 73-75, as it does not recognize the same YYR sequence in peptides 70-72. In view of these results, it cannot be asserted that 15B3 binds a YYX epitope.

Even Korth argues against a simple linear peptide as constituting the epitope for 15B3. On page 76, column 2, of Korth (Nature) a model is presented for the 15B3 epitope that includes various structural assumptions to allow for the formation of a single epitope out of the three discontinuous peptide segments. For example, Figure 3c shows,

"a hypothetical fold of the prion protein that would bring all three components of the 15B3 epitope into spatial proximity." The 15B3 epitope is made up of three discontinuous partial epitopes that come together spatially either by "aggregation of two or several PrP molecules or by structural rearrangement of a singly PrP molecule, or by a combination thereof." (page 76, column 2). Clearly, the 15B3 epitope is not YYX. Again, applicants remind the Office that the present claims require that the antibody bind *to a YYX epitope* and not *a peptide comprising a YYX epitope.* Accordingly, Korth's 15B3 antibody does not anticipate applicants' claimed antibodies. This basis for the rejection should be withdrawn.

6H4

Turning now to Korth's 6H4 antibody, applicants point out that Korth's 6H4 antibody also does not bind a YYX epitope. As evidence of this assertion, applicants again direct the Office's attention to Paramithiotis et al., *Nature Medicine* (2003) 9:893-899, previously made of record in this case (copy enclosed)[2].

In particular, applicants direct the Office's attention to Figures 3a and 3c. Figure 3a shows the results of a competition experiment using anti-YYX antibodies, 1A12 and 17D10, Korth's 6H4 antibody, and a non-specific control antibody, 4E4. Scrapie infected brain homogenates were pre-incubated with an unconjugated form of each antibody and then immunoprecipitated with magnetic bead conjugated forms of each antibody. If the

[2] Applicants note that the first author on this *Nature Medicine* article, Eustache Paramithiotis, is also a co-inventor on the present application.

pre-incubation antibody recognized the same epitope as the immunoprecipitation antibody, it would compete for antigen and the signal in the bead-conjugated immunoprecipitation lane would be reduced or absent.

For example, in lanes 1-4 the sample is pre-incubated with the non-specific control antibody 4E4 and each of the bead-conjugated immunoprecipitations with specific antibody showed a clear signal indicating that the non-specific antibody had not competed for the same epitope on the antigen. In lanes 5-8, pre-incubation with the 6H4 antibody only blocked the self-immunoprecipitation reactions (lanes 5 and 6). The fact that pre-incubation with 6H4 did not block the bead-conjugated immunoprecipitation reaction using the anti-YYX antibodies demonstrates that the 6H4 epitope and the 1A12 or 17D10 epitopes are not identical. In lanes 13–16, pre-incubation with the 17D10 antibody blocked the self-immunoprecipitation reaction, as expected, and also the bead conjugated immunoprecipitation with the 1A12 antibody demonstrating that these two antibodies share the same epitope. 17D10 antibody pre-incubation did not block the immunoprecipitation reaction using the 6H4 antibody again demonstrating that 6H4 and 17D10 do not compete for the same YYX epitope. Lanes 9-12 show the competition experiment using 1A12 as the pre-incubation antibody. Again, pre-incubation with 1A12 did not block the immunoprecipitation reaction using the 6H4 antibody demonstrating a difference in epitopes between 6H4 and 1A12. The 1A12 was less efficient in blocking the immunoprecipitation reaction using the 17D10 antibody and the 1A12 antibody and this may be due to technical reasons. Regardless, the fact remains that, using the 6H4 as the pre-incubating antibody or 17D10 as the pre-incubating antibody, the competition

experiments showed no overlap between the 6H4 epitope and the 17D10 and 1A12 epitopes. These competition experiments clearly demonstrate that 6H4 does not bind to a YYX epitope.

To further demonstrate this, applicants draw the Office's attention to Figure 3c and the accompanying text on page 896. Figure 3c shows the epitope characterization of 1A12 and 17D10 in a peptide competition ELISA system using plate-immobilized 4-MAP-Tyr-Tyr-Arg. Figure 3c shows that the two YYX antibodies, 1A12 and 17D10, bound to plate-immobilized YYR. However, as stated on pg. 896, "the isotype-control monoclonal antibody, 4E4 and the isoform-nonspecific monoclonal antibody 6H4 did not [bind] (data not shown)." Taken together, Figures 3a and 3c clearly demonstrate that 6H4 recognizes a different epitope than antibodies such as 1A12 and 17D10, each of which bind a YYX epitope. Accordingly, the anticipation rejection over Korth (Nature), in view of the 6H4 antibody, may also be withdrawn.

In sum, Korth (Nature) does not describe an antibody that binds to a YYX epitope as required by claim 1. Given that Korth (Nature) simply does not describe the type of antibodies presently claimed, the § 102(b) rejection should be withdrawn.

Claims 1-17 and 80-82 also stand rejected under 35 U.S.C. § 102(a) as anticipated by Korth et al (WO 98/37210) or under 35 U.S.C. § 102(b) by Korth et al. (EP 0 861 900). Applicants respectfully traverse each of these rejections.

Korth (WO 98/37210) and Korth (EP 0 861 900) both fail to disclose antibodies that meet applicants' claim limitations and, therefore, fail to anticipate applicants'

claimed invention. Applicants again direct the Office's attention to Appendix A for a listing of Korth's 104 13-residue peptides[3]. In particular, Korth (WO 98/37210) discloses that the 15B3 antibody recognized peptide 62, which does not include a YYX epitope, and failed to recognize peptides 66, 67, 68, 70, 71, 72, 101, 103, and 104, which include a YYX epitope. Similarly, Korth (EP 0 861 900) describes the 15B3 antibody as recognizing peptides 33, 34, 53, 69, 76, 77, 78, and 79, each of which do not include a YYX epitope. Korth (EP 0 861 900) further teaches that the 15B3 antibody failed to recognize peptides 63, 64, 65, 66, 67, 68, 70, 71, 72, 101, 102, 103, and 104, each of which include a YYX epitope.

As shown in Table 1 presented above, according to EP 0 861 900, 15B3 recognizes peptides 73-79 and does not recognize peptides 70-72, yet peptides 70-75 all have the same exact YYR. Clearly, 15B3 does not recognize the YYR sequence. Again, the ability to recognize several peptides that do not include a YYX epitope combined with the inability to recognize several peptides that do include a YYX epitope demonstrates that 15B3 does not bind to a YYX epitope.

Furthermore, as indicated above, because the 6H4 does not recognize a YYX epitope, the 6H4 antibody cannot anticipate applicants' claimed invention. Given that neither Korth (WO 98/37210) nor Korth (EP 0 861 900) discloses antibodies that are identical to applicants' claimed antibodies that bind to a YYX epitope, they cannot anticipate the claims under § 102. Each of these rejections should also be withdrawn.

[3] Korth (WO 98/37210) discloses a gridded array of synthetic peptides consisting of 104 13-residue peptides, for example, at p. 11 (lines 18-32) and p. 18 (lines 9-11), and Korth (EP 0 861 900) discloses such an array, for example, at p. 6 (lines 27-34) and p. 9 (lines 6-8).

Rejections under 35 U.S.C. § 112, second paragraph

Claims 2 and 11 stand rejected under 35 U.S.C. § 112, second paragraph as being indefinite. In particular, the Office asserts that it is unclear what is meant by the phrase "does not specifically bind". The rejection is based on the incorrect assumption that affinity and specificity are equivalent. This assumption is exemplified on page 4 of the Advisory Action where the Office states, "'low affinity' binding (i.e. does not specifically bind)." The Office asserts that an antibody having high affinity, as defined in the specification, would encompass binding affinities that the ordinary artisan would recognize as a weak binding interaction and therefore would fall within the term "does not specifically bind." This assumption that binding affinity and binding specificity are equivalent and interchangeable is incorrect and this basis for the rejection should be withdrawn.

Binding specificity and binding affinity are distinct attributes of an antibody. Specificity describes the ability of the antibody to recognize one antigen over another. Affinity describes the strength of the interaction between the antibody and the antigen. Accordingly, specificity and affinity describe distinct characteristics of an antibody and are not equivalent or interchangeable as suggested by the Office.

Applicants claims 2 and 11 each recite that the "antibody does not specifically bind PrP^{C}". Applicants point out that one skilled in the art would simply recognize this phrase as encompassing any antibody that does not specifically react with PrP^{C}. Whether or not the antibody has an affinity constant of 10 μM, which the office states is

weak interaction, or 10 nM is irrelevant to the meaning of the phrase "does not specifically bind PrP^C." The two characteristics should not be confused.

One skilled in the art would clearly appreciate what is meant and encompassed by the phrase "does not specifically bind PrP^C," and this basis for the rejection of claims 2 and 11 may be withdrawn.